flattened and definitely limited outwardly by a carina or a row of bristles; the scutellum is a small simple triangle; the short elytra barely cover the base of the pygidium; the calcaria of the hind tibia are short and subequal. From *Zabrotes*, *Spermophagus* differs in these four ways:

A. The tenth elytral stria is complete reaching both base and apex while in *Zabrotes* this stria is abbreviate at apex, not extending beyond the middle of the elytron.
B. In *Spermophagus* the flanks of the pronotum below the lateral carina are produced anteriorly into a vertical carina which hides the hind margin of the eye in repose; this structure is not present in *Zabrotes*.
C. In *Spermophagus* the intercoxal process of the prosternum, when seen from in front, is acuminate reaching nearly or quite to the apex of the coxa and has a vertical posterior face between the coxae reaching from their apices to the connecting membrane; this process in *Zabrotes*, when seen from in front, is a short triangle separating the coxae for only half of their length without a posterior vertical face.
D. The outer apical lamella of the hind femur is elevated, its apical angle rounded in *Spermophagus* while in *Zabrotes* this angle is acute. The great majority of species of *Spermophagus* are attached to species of Convolvulaceae, a few to Malvaceae (*Hibiscus* and *Urena*), host plants not known to be affected by *Amblycerus* or *Zabrotes*. One African species affects a species of Cassia. Species of *Spermophagus* are found in England, in Sweden and eastward to Japan, south to New Caledonia, Australia, (*Bruchus perpastus* Lea, 1899, from Western Australia being a species of *Spermophagus*) and the Cape of Good Hope, but are in complete confusion, so that application of names is impossible without study of types. No species referable to *Spermophagus* as here restricted has been seen from any American locality.

(9) *Bruchidius* Schilsky, 1905, as originally described is too polymorphic to remain undivided. *Bruchidius quinqueguttatus* (Olivier, 1795) is the designated genotype, Bridwell, 1932. No American bruchid seems congeneric with this species. *Bruchus villosus* Fabricius, 1792, has become established in Massachusetts and in Virginia. It was included by Shilsky in *Bruchidius* under the untenable name *Bruchidius cisti* (Paykull) and is the genotype of a new genus, *Sparteus*, above described.

(10) *Pachybruchus* Pic, 1912. The genotype, *Bruchus coryphae* Olivier, 1795, designated by Bridwell, 1932, is congeneric with the genotype of *Megacerus* Fahraeus, 1833.

ZOOLOGY.—*A new sea anemone from Woods Hole, Massachusetts.*[1]

Sears Crowell, Miami University, Oxford, Ohio, and Marine Biological Laboratory, Woods Hole, Mass. (Communicated by Waldo L. Schmitt.)

In 1939, Dr. William J. Bowen brought to me specimens of a small sea anemone taken from the Mill Pond, at Woods Hole. This anemone is noteworthy in several respects: (1) It belongs to a genus hitherto represented by only one species, and that from only one locality, the Isle of Wight in the English Channel. (2) It has evaded observation until recently, even though it is abundant at a location almost in the shadow of the Marine Biological Laboratory. (3) It possesses nematosomes. These are small clusters of cells that bear nematocysts and that move around freely in the coelenteron without permanent attachment to the body of the anemone. These nematosomes are being studied further, since no knowledge of their function or origin exists. (4) It is well suited for study by students in general or invertebrate zoology, in that it is small, transparent, simple in structure, hardy, and available at almost all seasons. It has been used by the classes at the Marine Biological Laboratory and successfully shipped as far as Ohio, where it arrived in good condition.

[1] Received December 20, 1945.

Genus **Nematostella** Stephenson, 1935

The genus *Nematostella* was established by Stephenson to include those Edwardsidae that could not be referred to *Edwardsia* because of the absence of nemathybomes and that could not be referred to *Milne-Edwardsia* because the outer tentacles are longer than the inner. From both of these genera it differs in the possession of nematosomes. The type species is *Nematostella vectensis* Stephenson, 1935.

Nematostella pellucida, n. sp.

Diagnosis.—With the characters of the genus. Length of body in extension up to 20 mm. Width at physa one-sixth the length, tapering to one-tenth the length below the tentacles. Body transparent and entirely lacking in external markings. The transparency makes the insertions of the eight primary mesenteries very evident. Each, as seen through the body wall, appears as a double line, tan or dark brown. The throat is a lighter tan. The lips are conspicuous, being almost white or yellowish. Scapulus not distinct from scapus. Physa well developed but not sharply marked off from scapus. Physa smooth in extension, wrinkled when contracted.

Tentacles 16, rarely less, in two cycles of eight each. In normal expansion the tentacles of a specimen 10 mm long have a length of 4–5 mm in the outer, exocoelic cycle, a length of 3–4 mm in the inner, endocoelic cycle. In extreme expansion the tentacles may slightly exceed the length of the body. Each tentacle bears four or five whitish marks on its inner face, and these are equally spaced along the length of the tentacle. These spots consist of groups of tiny spherical granules in the gastrodermis (endoderm). They appear white by reflected light and dark in transmitted light. (See Fig. 6.) The relationship of the tentacles to the mesenteries is shown by Fig. 2.

There are eight primary mesenteries (macrocnemes). The dorsal and ventral pairs are directive. The muscles of the four lateral mesenteries face toward the ventral directives as shown by the semicircles in Fig. 2. There are no other mesenteries except for eight minute microcnemes. These are restricted to the bases of those adjacent tentacles not separated by primary mesenteries. They do not connect with the body wall itself, since their length is only that of the diameter of a tentacle. Their width is about one-half their length and in a specimen 10 mm long did not exceed 35 microns. Fig. 2 shows their position and width. Fig. 7 is intended to illustrate their insignificance more accurately. The retractor muscles of the primary mesenteries are simple or slightly branched as shown in Fig. 3. The parietal muscles appear as little tufts.

Eggs have been found in specimens less than 10 mm long. These are developed in the usual position on all primary mesenteries, below the throat, between the retractors and mesenterial filaments. While being anesthetized prior to preservation the type specimen discharged 10 eggs and about 100 nematosomes. These were all held together loosely by a mucous substance. The diameter of the eggs is 175 microns. I have no other information concerning the reproduction or life history.

When viewed with a dissecting microscope the nematosomes can be clearly seen through the body wall. A few are usually moving about in the coelenteron. Most of them are at the insertions of the mesenteries in the body wall. Thus there are 16 rows, one on each side of the eight insertions. Within the rows the nematosomes are irregularly spaced. They are easily dislodged but soon return to positions of loose attachment along the mesenterial insertions. Their number is variable. For a specimen 10 mm long there are about 20 on each side of each insertion, or 300 to 400 altogether. Each nematosome consists of 20 to 30 nematocysts, radially arranged, and of flagellated cells responsible for their locomotion. They are nearly spherical with a diameter of 27–30 microns. These bodies, the nematosomes, were first described by Stephenson (1935) and are known only in *Nematostella* and in *Milne-Edwardsia polaris* (Stephenson, 1935, pp. 48, 408).

The types and sizes of the nematocysts are:

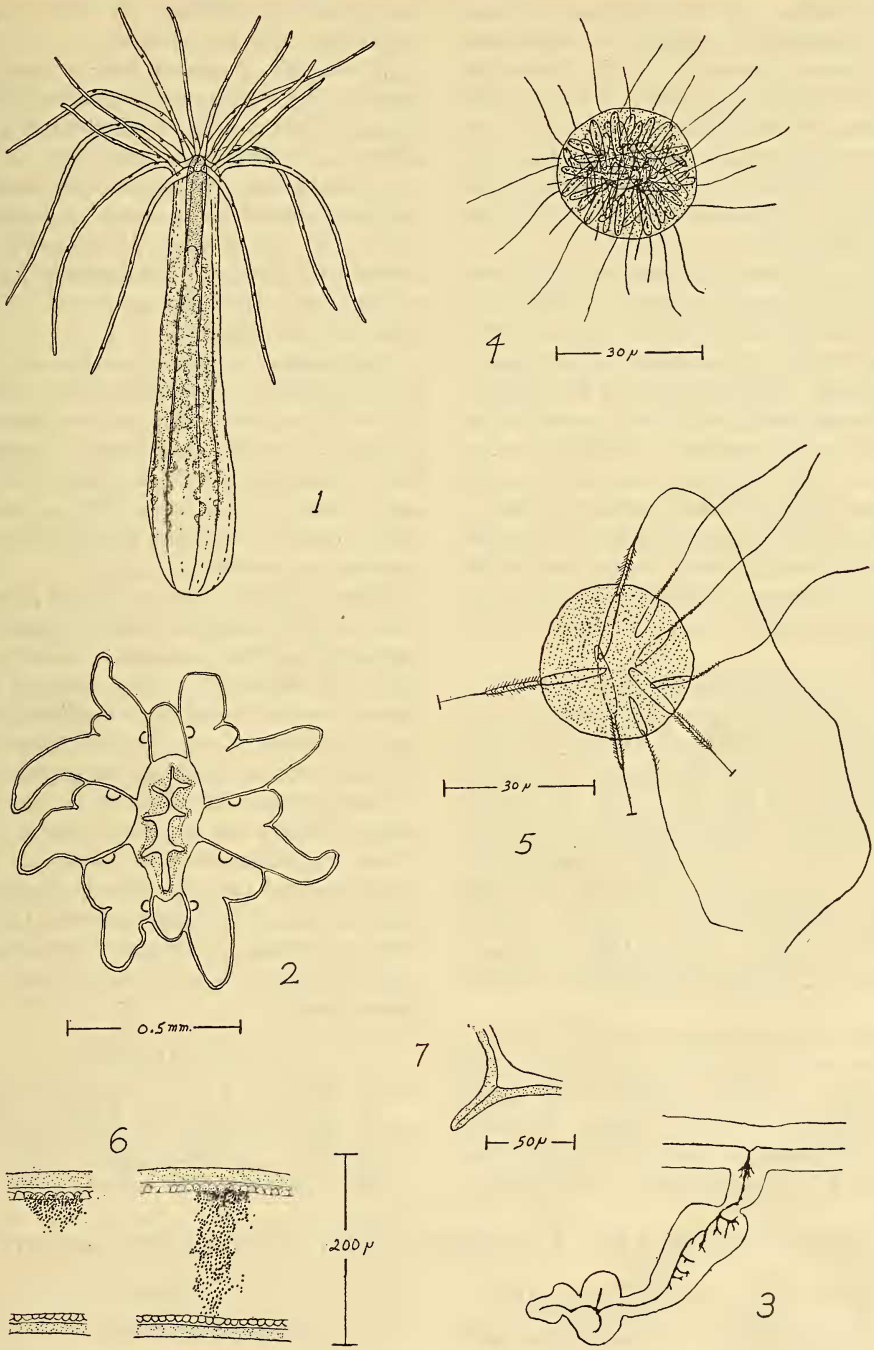
Tentacles. (1) Spirulae (Stephenson) or basitrichous isorhizas (Weill): Capsule 13 to 22μ, typically $18\times2.5\mu$; tube spiny for 18μ; tube length 110μ. (2) Spirocysts: Capsule average length 20μ.

Upper Column. Spirulae or basitrichous isorhizas: Capsule 9.5 to $11.0\mu\times2.2$ to 2.8μ, average $10\times2.5\mu$; tube spiny for 11μ, tube length 30 to 60μ.

Physa. Spirulae or basitrichous isorhizas: Capsule average $9.4\times2.5\mu$.

Throat. (1) Basitrichous isorhizas: Capsule 18μ; tube spiny for 18μ, tube length 60 to 85μ. (2) Microbasic mastigophores: Capsule $20\times4.5\mu$; butt (hampe) 24 to 29μ; total tube length 85μ.

Mesenterial Filaments. (1) Basitrichous isorhizas: Capsule 18μ; tube spiny for 16 to 18μ, total tube length 35 to 55μ. (2) Microbasic mastigophores: Capsule 18 to $23\mu\times4.5$ to 5.5μ; butt 22μ; total tube length 70μ.



Figs. 1–7.—*Nematostella pellucida*, n. sp.: 1, Specimen with body length of 10 mm; 2, diagram of an actual section through bases of tentacles, showing relationships of mesenteries and tentacles, location of retractor muscles at a lower level indicated by semicircles; 3, pattern of a retractor muscle just below throat; 4, nematosome with nematocysts undischarged (its flagella shown); 5, nematosome after discharge of some of its nematocysts (diagrammatic), only a few of nematocysts shown (long tubes of 3 of microbasic mastigophores cut off, as indicated by a line ⊥ to tube; smaller nematocysts are basitrichous isorhizas); 6, diagrams showing appearance of granules of tentacle spots with transmitted light, at left tentacle shown in side view, at right it is viewed from its inner face (epidermis stippled); 7, junction of 2 tentacle bases showing a microcneme at its maximum width (gastrodermis stippled).

NEMATOSOMES. (1) Basitrichous isorhizas: Capsule 13μ; tube 40 to 60μ. (2) Microbasic mastigophores: Capsule 17×4.5μ; butt 13μ, tube 100μ. The first of these types is about three times more abundant than the more conspicuous latter type. (See Figs. 4 and 5.)

Type.—U.S.N.M. no. 43763; paratypes in U. S. National Museum and in author's collection, Oxford, Ohio.

Locality.—Known only from the Mill Pond, Woods Hole, Mass. This pond is 300 to 400 feet in diameter. The water is nowhere over 2 feet deep, but there is another foot or more of unconsolidated muck. An 18-inch tile, 200 feet long, connects the pond to sea water (in the Eel Pond), and through this tile the tide enters and leaves. In the only test made the water had 94 per cent of the chlorine content of water in the harbor. After heavy rains the salt content is doubtless lower. Marine forms such as the blue crab (*Callinectes sapidus*) and the anemone *Sagartia luciae* also are found in the Mill Pond.

Taxonomic relationships.—It is possible to describe the present form as a variety or race of *Nematostella vectensis*. An attempt to make direct comparisons of specimens was unsuccessful because of the war. Both *N. vectensis* and *N. pellucida* occur in shallow brackish pools or ponds. I have treated *N. pellucida* as a distinct species partly because of the great distance between the known localities, and the impossibility of there being suitable intermediate brackish pools across or around the Atlantic Ocean.

The anatomical distinctions are in the pattern of coloration on the body, and in the tentacle spots. Although coloration in anemones is highly variable, pattern is fairly constant. Stephenson describes an elaborate, definite, and constant pattern at the bases of the tentacles of *vectensis*. No hint of any such markings occurs in *pellucida*.

N. pellucida possesses four or five definite spots on the inner face of each tentacle but in *vectensis* the markings of the tentacles are described as irregular and dispersed.

I believe this American *Nematostella*, *N. pellucida*, should be regarded as a species distinct from the British *N. vectensis*. Should future study produce intermediate forms, and a change of status seem necessary, this can be done without confusion.

Observations on living specimens.—In the normal habitat *N. pellucida* rests upright in mud with tentacles, disc, and scapulus exposed above the surface. It secretes a mucous substance adequate to hold the walls of its burrow away from the epidermis. This is not a real tube, however, and does not persist after the anemone is removed.

When removed from mud and placed in a glass dish *Nematostella* exhibits peristalsis-like contractions. The circular muscles contract below the tentacles and the place of contraction moves slowly the whole length of the specimen. A second wave of contraction starts as the first reaches the end of the physa.

The anemone can tolerate a considerable dilution of the salt content of water in which it lives. Specimens remained active and in good condition after ten days exposure to 1 part sea water to 2 parts of distilled water. The British form, *N. vectensis*, is subject to wide variations in the salinity of the pools where it lives (Stephenson).

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WEILL, R. *Contribution a l'étude des cnidaires et de leurs nematocystes.* Trav. Stat. Zool. Wimereux **10** and **11**: 1–702. 1934.

PROCEEDINGS OF THE ACADEMY AND AFFILIATED SOCIETIES

NEW MEMBERS OF THE ACADEMY

There follows a list of persons recently elected to membership in the Academy, by vote of its Board of Managers, who have since qualified as members in accordance with the by-laws of the Academy. The bases for election are stated with the names of the new members.

RESIDENT

Elected February 12, 1945

JOHN WILLIAM MITCHELL, physiologist, Bureau of Plant Industry, Soils, and Agricultural Engineering, Beltsville, Md., in recognition of his contributions to plant physiology, in particular his researches on plant hormones and growth-regulating substances.